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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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THE OUTLOOK FOR LAKE COMMERCE.

Capt. J. S. Dunham, of Chicago, an ex-president of the Lake Carriers' Association, says that the freight that is to be carried on the Great Lakes this year will exceed in tonnage that of any previous years in the history of inland navigation. The ore handling will be enormous, merchandise freight will show a material increase and there will be an increase in the amount of lumber afloat. He confidently predicts an increase of from 25 to 40 per cent. in tonnage over 1898. A short season and a heavy haul is the way the situation is sized up. In summing up the situation Capt. Dunham touches on several very interesting points of general interest.

Even if the corn and wheat crops should be poor the vessel owners say that the great size of the ore and coal haul will more than compensate for the grain loss.

At the earliest, Chicago boats will not leave for Buffalo or Duluth much before May 1, and many will not get away before May 10. This makes the season's opening from four to six weeks later than it was a year ago. The navigation season will be only seven months long this year.

Half a million tons of hard coal are in readiness at Buffalo for shipment west. The shippers claim to have secured a lake rate of 30 cents. Most of the boats first to arrive in Chicago from Buffalo will be loaded with coal. Coal docks in Lake Michigan and Lake Superior ports are pretty well cleaned out and the lake coal tonnage is bound to be very heavy this season. Carriers want a 40-cent rate from Buffalo, but at the present time 30 cents seems to be the best offered or to be secured.

The owners of the vessels of the lumber fleet are looking forward to the best for have a dozen years past. The era of good times which has come to other branches of the lake marine business promises to extend to the lumber carriers. Dealers are not yet asking for first boats, but such action would be premature with the amount of ice that is now afloat. The lumber craft is cut down fully one-eighth from what it was last year through the number of vessels lost in the fall storms. Many of the larger steam craft and schooners are being attracted into other channels by the demand for carriers for steel rail and billets. The condition of the ice is shortening the season of navigation, and the stock of lumber on the docks is being used up steadily at the same time. The demand promises to be excellent during the summer, and the owners of good craft are feeling exceedingly hopeful.

The Northern Steamship Co.'s line will start the season June 13, commencing at Buffalo. The Lackawanna lake freight line, which it was reported would be abandoned this season, it is now stated will run as in the past. The Anchor line will continue its compact with the West Shore railroad and freight from the east west-bound will be carried by the Anchor boats.

The schedule of rates to govern rail and lake and lake and all traffic during the coming season is adjusted so as to do away with the proposed advance in rates on freight of the fifth and sixth classes. This change is said to have been brought about by the attitude of the Great Northern railway. The company notified the large lines that it would not stand for the advances, and after conference it was agreed to arrange the rates to suit that road. The rates will be the same as they were last season.

The charge for unloading iron ore from vessels has been advanced from 14 to 16 cents per ton at all Ohio ports. The larger part of the raise goes to the men discharging the cargo. There is no question but the men earn the money, but there is a feeling that the dock proprietors and not the owners of the vessels ought to stand the increase in pay. This season in particular the vessels were chartered for the season on the understanding that trimming and discharging rates would be as formerly. On account of this advance vessels carrying ore for the season will be at a loss that amount.

At the opening of navigation there will be ready for use at Lake Superior ports 20 ore docks, containing 4,529 pockets, whose aggregate capacity is estimated at 672,966 tons. Two years ago the capacity at the same ports was about 617,250 tons, and in 1898 the capacity was about 623,612 tons.

Although there will be no ore deliveries at Lake Erie ports during the month of April, as against unusually large receipts a year ago, the ore shippers may be depended upon to get the business started as early as possible.

In this connection Mr. Edwin Smith, of Buffalo, representative of Brown & Co., vessel agents, is quoted as saying: "I'll give just five more days to open navigation. That will bring the opening on Tuesday, April 25th. There's only one thing that can delay it longer than that, now that the ice in the Straits is so far gone as it is reported to be, and that is a wind from the west on Lake Erie. There's a good deal of ice still floating in the lake around Buffalo and a good brisk west wind would close up Buffalo harbor tight as a drum. If such a thing should occur it would take a good ten days more to open up again."

Talking of the prospects for business during the coming season, Mr. Smith was inclined to be a little pessimistic.

"It's easy enough for vessel men to predict wonderful seasons of prosperity during the winter time, but the cold, hard fact of rates when the season opens generally causes a disillusioning, I notice.

"I see that Capt. J. S. Dunham, of Chicago, predicts an increase of from 25 to 40 per cent. in tonnage for the coming season over that of 1898. Though Dunham is a pretty clear-headed business man, such a statement is off color on the face of it. The total amount of grain carried last year was in the neighborhood of 305,000,000 bushels. This is figuring that Buffalo took care of 221,000,000 bushels, the St. Lawrence route 40,000,000 bushels, Georgian Bay about 25,000,000 bushels, Cleveland, Erie, Fairport and Sandusky, 15,000,000 bushels, and other scattering points, 4,000,000 bushels. Now to increase this 25 per cent. would make it necessary for the lake tonnage to take care of 375,000,000 bushels during the season.

"The season has already been shortened by the late opening a whole month and the insurance men are contemplating the taking off of another ten days at the other end. Why such a prediction would prove impossible of fulfillment because of the capacity of the carriers even if there should be the grain to carry. The same thing is true in regard to ore. Last year there was 14,000,000 tons of ore transported. An increase of 25 per cent. on this it would be impossible for the upper docks to supply, as there is only 2,000,000 tons now on hand and the mines couldn't dig enough all summer to make up such an amount."

Mr. Smith said, however, that prospects for a reasonable increase of business are good. This, though a conservative statement, is undoubtedly of great value because Mr. Smith is in close touch with the shipping interests all over the lakes.

LIABILITY FOR SHORTAGE OF WHEAT.

Cleveland Iron Mining Company against Eastern Railway Company of Minnesota is the title of a recently decided action brought by a carrier of grain on the lakes to recover of a company owning and operating an elevator at West Superior, Wis., the value of 1,502 bushels of wheat alleged to have been short in a cargo loaded into the plaintiff's vessel out of said elevator.

At the shipper's request, the carrier guaranteed delivery of the grain in its bills of lading. There was a deficiency, and to the extent of its value the carrier had to respond to the consignee, who had also through an assignment succeeded to the rights of the shipper. By payment, the Supreme Court of Minnesota holds, 78 Northwestern Reporter, 84, the carrier became subrogated to these rights, as fixed in the bills of lading, and could enforce the same by an action at law, and without any formal assignment.

But the defendant company claimed protection from the fact that, at its request, the Minnesota State Railroad and Warehouse Commission had furnished and maintained at its West Superior elevator, though in Wisconsin, a corps of inspectors and weighmasters; so that by consent of all parties concerned, the business of inspecting and of weighing grain in and out had there been conducted in accordance with the provisions of the Minnesota laws.

Whether the parties interested (carrier, elevator owner and shipper), when selecting or agreeing upon the weighmaster, merely imported an umpire, or incorporated into their contract for an umpire the Minnesota grain laws, the Supreme Court of Minnesota says, did not need to be decided; for, in either event, his decision could be impeached under the evidence produced.

A deficiency of 1,502 bushels in a cargo of 81,000 bushels of wheat, almost 2 per cent. of the whole, the court declares, renders it necessary to hold, as a matter of law, that the error was either fraudulent or was so gross as to imply bad faith, or a failure on the part of the umpire-weigher to exercise an honest judgment when weighing out. And for these reasons, upon the whole record, the Supreme Court affirms a judgment in favor of the carrier, and against the company maintaining the elevator.

AN electrical siren is an invention that has recently been perfected in Ottawa, by Mr. A. E. Trudeau, which may take the place of electric bells, and which will no doubt be used as a fog signal at sea and along the shores where fog signals are now in use. The invention can be placed at a point inaccessible to the ordinary steam plant now used in fog-signaling, and can be operated by wires connecting the power at almost any distance. The sound is produced by the vibration of a diaphragm at the base of the horn. This new device, it is expected, will be adopted by the Dominion Government to take the place of the rather cumbersome steam plant required for signaling stations.

NEWS AROUND THE LAKES.

BUFFALO.

Special Correspondence to The Marine Record.

The schooner Active, formerly owned by John S. Garey, of Saginaw, has been purchased by Thomas Turner of Buffalo. The consideration is not made public.

The Welland canal is opened and considerable traffic has already passed through it. The Erie canal is also open and a brisk season's work is confidently looked for.

Justice White has granted to the Erie Railroad a warrant of attachment against the property of William H. Bridges and Alfred C. McLean, of Michigan, now in the possession of Worthington & Sill of this city. The claim is for damages to a scow belonging to Hughes Brothers & Bangs, the result of being run down by the steamer Maine. The scow was repaired at the Union Drydock, and the bill amounted to $1,231.30, of which defendants paid $631.37. The warrant covers the balance.

As an indication of the scarcity of material for shipbuilding purposes, or rather for the orders booked ahead, it is noted that a steel tug was to have been placed with Bell's Engine Works, but the material could not be procured, and the prospective owners were obliged to defer the project until a more favorable time. Of five steel firms applied to in January but one would consider the matter of furnishing plates at all this season, and that firm would not agree to fill the order before July.

Capt. E. C. Maytham, the tug owner, sent a letter to the aldermen urging that a new fire tug of modern construction be built. Capt. Maytham says: "I consider that each and every vessel laid up in the harbor of Buffalo contributed to our people from $1,000 to $1,500 and if we fail to give them fire protection it will have a tendency to drive them from Buffalo. There are laid up at this port vessels which aggregate in value nearly $20,000,000, to say nothing of the valuable cargoes. In consideration of the above facts, it seems the wisest course is to have another fire tug—one specially adapted to break ice and give the much-needed fire protection."

The interests of O. W. Blodgett, of Bay City, and Connelly Brothers, of Buffalo, will be merged this season, so far as the operation of the boats is concerned. Capt. Connelly reports that they have soft coal cargoes to take up, though they will go light whenever it is probable that the cargoes would be bunched at the other end. This coal is mostly taken by the Northwestern Fuel Co. at its various western receiving ports. The Blodgett-Connelly fleet will be the C. H. Bradley, with Brightie, Woolson and Peshtigo, as formerly, the Ed. Smith No. 1 with Fillmore, Goshawk and Jenness, the Ed. Smith No. 2 with the Connelly barges Connelly Brothers, Ogarita and Gardner.

The winter fleet intends to make an attack on the ice pack at the foot of Lake Erie on Thursday, and it is predicted that they will be able to reach open water without much trouble. The masters of the following boats have expressed a determination to start: Madagascar, Germanic, George F. Williams, Iosco, Louisiana, John Eddy, J. W. Moore, Marquette, Viking, Armour, Panther, Majestic, Queen City, Hadley. The Madagascar will probably lead the fleet and will make the start if she has to go alone. Her master will send a report on the ice to Cleveland and the C. & B. line will be governed by it in sending out the City of Buffalo on her regular route between this port and Cleveland. The line boats will hold off until May 1.

This port ought certainly to have a Marine Hospital branch, just as Cleveland, Chicago or Detroit is entitled to one. The subject has now been broached, and the result can only be in the direction of the establishment of adequate service. The latest endorsement to be given the project was that of the Marine Engineers' Beneficial Association No. 1 of this city. At the organization's last meeting the following resolution was adopted: "Whereas, Hearing that there is a movement on foot to petition Congress to establish a marine hospital building, for the use of the Marine Hospital Service at the port of Buffalo, and knowing the necessity for such action on account of the large and constantly growing maritime business at this port, and the consequent increase in the number of cases requiring the attention of the hospital service to such an extent that the present ward space at the City Hospital is quite inadequate; and, whereas, there are at present three Marine Hospitals on the Great Lakes, located at Chicago, Cleveland and Detroit, we find the number of cases treated in Buffalo is largely in excess of cases treated at Cleveland or Detroit, and exceeded only at Chicago, we feel justified in asking Congress to establish a building at Buffalo for the use of the Marine Hospital service, and thereby relieve the service of a serious problem in the care of sick and disabled seamen of the Great Lakes; therefore, be it resolved, that Marine Engineers' Association No. 1 of Buffalo heartily endorse the movement to establish a marine hospital building at Buffalo, and will do all in their power to further the same. William Meade, President; G. M. Campbell, Secretary."

THE Standard Oil Co.'s new steel barge was launched from the yards of the American Steel Barge Co., on Wednesday. The Arthur Orr in dry dock all winter for rebuild, lengthening, etc., is afloat again, and the W. G. Gilbert has been docked for bottom repairs, to be followed by the Alexander McDougall.

DETROIT.

Special Correspondence to The Marine Record.

Judge Swan has dismissed without costs the libel of Edmund Hall against the tug James L. Martin and the schooner Brainard.

Capt. George Mulinix, a veteran tug man and one of the oldest men in the service on the lakes, died at Toledo on Monday. He was seventy-six years of age.

The fine of $50 levied on the schooner Edward McWilliams because of the failure of her master to surrender her license on time, has been reduced to $5 by Assistant Secretary Spaulding, at Washington.

The river postal, or marine delivery service has started, the same little steamer being used as last season. During the winter she was rebuilt and given engines and boiler to send her along at a fifteen mile an hour clip, on a spurt.

It is reported that the schooner Edward Kelly has been sold to Buffalo parties and will be transferred at once. She has been lying up all winter at Toledo, where she is at present. Her dimensions are 187 x 35, and she was built in 1874, and has a net tonnage of 734. She was the property of E. D. Chilson, of Tecumseh, Mich.

Word has been received from Fort William to the effect that the Kaministiqua river is now clear of ice, and that navigation will open within a few days. It is also reported that Mud Lake is open several miles below the Encampment, and that boats would have very little trouble in getting to Lake Superior at any time now.

Now that navigation is about ready to open, the local inspectors have issued a warning to masters and owners concerning their vessels leaving port when the certificates of the same have expired. They call attention to the fact that three vessels have been found this spring violating this law and have been reported. The fine for such a violation is $500.

There has been a rumor that the Riverside Iron Works, S. F. Hodge & Co., would amalgamate with the Craig Ship Building Co., Toledo. Mr. Harry S. Hodge states that the report is rather premature, and that there has been no recent developments toward such a partnership. It is known, however, that Mr. Craig has always been on very friendly terms with the firm of S. F. Hodge & Co.

Owing to the late opening of navigation this spring, lake seamen predict a dangerous amount of fog all through the early months of the season. The water in all the lakes is several degrees colder than normal, owing to the amount of floating ice, and the warmer air will cause heavy fog conditions as a result. The Weather Bureau and Life-Saving Service will exercise extra vigilance and use all precautions in order to avoid accidents or loss of life.

P. H. Studer, the boat builder, has received a contract from the government to build a launch which will be used to patrol the "Soo" river. The boat is to be a miniature of the hull of the battleship Texas, and will be 26 feet long, 6 feet 6 inches beam, and 5 feet 6 inches in depth. She will have a 12 horse-power gas engine, and will cost $1,900. Lieut. Creighton Churchill will have command of the launch and its crew of four men. When the boat is finished it will be shipped by rail to the "Soo."

The Pittsburg & Conneaut Dock Co. claims that the Iron Age, a steamer belonging to the Detroit Transportation Co., reached their dock one morning and a hawser from her was thrown over a spile, but the boat kept moving, causing the hawser to catch on some ore hoisting machinery and damaging it to the extent of $3,000. The dock company sued the Detroit Transportation Co. for that amount and for the alleged loss of business while the machinery lay idle. Trial of the action began before Judge Frazer and a jury, a few days ago.

Bids for the marine postal service on the Detroit, river, were opened on Tuesday, by Postmaster Dickerson. Notwithstanding that this course had to be taken as a result of Capt. J. W. Westcott's protest after the contract had been awarded to C. F. Bielman, Westcott failed to send in a bid. But three firms wanted the contract, who, with the names of the boats and the amount per day for which they offered to do the work, were as follows: C. F. Bielman, Florence B., $18; D. D. McAlpin, Alma C., $19; Ruelle & White, Rosalie B., $14.75. Each bid was accompanied by a certified check for $1,000 and a $5,000 bond is required for the faithful performance of the contract. Postmaster Dickerson declined the responsibility in the matter, so Acting First Assistant Postmaster General George M. Allen appointed A. A. Schantz and Thomas H. Simpson as a committee to act with the postmaster. The committee will report their findings to the department at Washington, which in turn will award the contract.

PORT HURON.

Special Correspondence to The Marine Record.

Capt. William Dulac, manager of the Tonawanda Barge Co., has chartered the steamer Buell to the Grand Trunk or Bottsford line, to run with package freight and flour along with the Wyoming between Port Huron and Duluth. The Canisteo will tow the Eleanor, Elvina and Pomeroy in the lumber trade from Manistique, and the Weston will tow the Fulton and Jeannette. The barge Stewart is to tow the Wotan. Capt. Dulac's own tow, the Street, Lozen and Godfrey, are in Chicago, loaded with grain for Port Huron. When they discharge cargoes they will carry lumber from the upper lakes to Detroit.

ESCANABA.

Special Correspondence to The Marine Record.

The light-houses on Little Bay de Noquet could be seen burning for the first time last Saturday night.

The beacons and buoys have been repainted and will probably be placed towards the end of the week.

The J. C. Gilchrist has been chartered to carry 125,000 bushels of corn, Green Bay to Buffalo, at about 2 cents.

An ice shove at Sturgeon Bay badly damaged the Lourie Stone Company's dock and totally demolished that of Wm. Snyder.

The boats of the Hart line of Green Bay are about ready to start. The Welcome intended to leave last Monday, the 22nd.

The Bay de Noquet Lumber Co., of Nahma, are to start building a new mill at once, to replace the one recently destroyed by fire.

The ice in Green Bay has carried away the Long Tail Point and Elbow beacon lights. They will be replaced as soon as possible.

W. S. Warman, of Chicago, fire inspector for the C. & N. W. R. R., made his annual inspection of the ore docks at this port last week.

Small schooners wintering here are about ready for the opening of navigation. Business in the trading line is expected to be brisk.

D. W. Chipman and T. W. Swift, of Milwaukee, United States local inspectors of steam vessels, were in Marinette and Green Bay last week.

I. Stephenson, of Marinette, has sold to Leatham & Smith Towing Co., of Sturgeon Bay, the schooner Advance for $800 and the Alert for $800.

It is expected there will be about 80,000 tons of ore in pockets by the 27th, as up to last Saturday night the amount was in the neighborhood of 45,000 tons.

Report is current to the effect that Capt. C. B. Hart, of Green Bay, had sold his interest in the Hart line to the Hart Steamboat Co. Cannot verify same as yet.

Navigation opened at this port last year by the arrival of an Ann Arbor car-ferry with the Lockwood and Ketcham on April 11 and closed Dec. 14 with the Phœnix the last boat out.

The ice in Little Bay De Noquet went out on Sunday morning under the influence of a steady north wind and is now piled up in windrows about 20 feet high in the neighborhood of the islands.

The Ann Arbor No. 2 passed here on Sunday bound for Gladstone arriving there at 6:20 p. m., 3 hours and 5 minutes to make the run, as ice was soft. She loaded and started back. The captain reported no ice obstruction.

One of the worst ice shoves known in years occurred last Thursday at Menominee. Several docks and piers sustained considerable damage. In some places it is piled up 30 feet high along the docks, while reports from Peshtigo Reef say it is about 60 feet high in places.

Navigation at Menominee was opened on the 19th by the arrival of Ann Arbor from Frankfort. It was found necessary to go through Death's Door Passage as ice at mouth of Sturgeon Bay was too thick. The Ann Arbor left same night followed by the Wyoming bound for Manitowoc dry dock.

Measurements taken here by the observer on April 10 showed 26 inches of ice in the harbor with 24 inches in channel. On the 17th it had decreased to 18 inches inside and 16 inches in the channel, while measurements taken on Saturday, the 21st, showed only 11 inches of poor ice, in a protected place on the north side of the merchant's dock, the ice out a short ways being unsafe to venture upon.

F. Brust, of Detroit, has arrived at Green Bay to take charge of the construction of the new light-house to be erected at Long Tail Point. The lighthouse will be built on a square timber crib, the timbers to run to the water line. Above the crib there will be a layer of paving brick five feet, eight inches high, above which will be a layer of concrete, 18 inches deep, and on the concrete will rest the lightkeeper's dwelling containing the light. The dwelling is to be a frame structure with two living rooms on the first floor and three sleeping rooms on the second floor, and will be fitted with modern plumbing. The light will be above the dwelling at an elevation of about 37 feet. Timbers for the crib are being sawed by the Murphy Lumber Co., and building operations will commence as soon as the timbers are ready. The crib will be finished on the Murphy Co.'s docks, and afterwards launched and towed out to the point.

LUDINGTON.

Special Correspondence to the Marine Record.

Mr. Lunde has also repaired the tug Sport, which has received a new boiler, crank shaft and some new steel plates. Capt. J. S. Crawford will sail the Sport, with Eli Raher in the engine room. Other work done at Mr. Lunde's yard consists of general repairs to Mitchell & Co's scows.

Capt. Evick Lunde, who by the way is a navigator, and has sailed his own vessels on the Atlantic ocean, has been doing considerable work in his shipyard at this port. He hauled out and rebuilt the tug Ida M. Stevens from the keel up, putting on a new house and otherwise improving her. She was launched on the 17th, and will be commanded by Capt. Ed. Morin, with W. E. Patterson, as engineer. She has been chartered by the city authorities as a fire boat.

CHICAGO.

Special Correspondence to The Marine Record.

The body of David Cogswell, of Manistee, was recovered on Monday. He was drowned from the steamer Joys last fall.

Capt. H. N. Jex, of the schooner E. D. Judd, who has been superintending the removal of the wreck of the steamer City of Duluth from the harbor of St. Joseph, Mich., has received a serious injury to his spine. He was struck in the back by a heavy timber and knocked overboard onto the deck of the tug Payne. Silas Swailes was thrown overboard, but was rescued without difficulty.

The lumber season opens with charters fixed for the year at $2 a thousand feet to Lake Erie and $2.25 to Chicago from Lake Superior, which is higher than shippers have known an opening in modern times. It is nearly double the rate of a year ago. Several million feet have already been chartered at this rate, and it is supposed that tonnage for 100,000,000 feet will be placed in the next few weeks.

The improvement of St. Joe harbor under the new $380,000 appropriation will be begun as soon as the work can be started. The United States steamer Gilmore has been despatched to St. Joseph with inspector C. W. H. Smith and Assistant A. P. Brokans, and they are now holding a survey preparatory to immediate work. It is believed that the new south pier will go in early this season.

The U. S. Naval recruiting station, in charge of Lieut. B. W. Wells, U. S. N., is making enlistments for the navy. Shipping officer Lieut. Wells, U. S. N., would like to get some good shipwrights, $25 per month; seamen $24 per month, and ordinary seamen at $19; also machinists who have had a year's experience, running marine engines, pay $55 per month. In addition to the monthly payment each man receives his rations. For further information write Lieut. B. W. Wells, U. S. N., Branch Hydrographic Office, Masonic Temple, Chicago, Ill.

At the launch, on Saturday last, of the new steel passenger steamer Illinois, built by the Chicago Ship Building Co. to the order of the Northern Michigan Transportation Co., the christening ceremony was gracefully performed by Miss Jean M. Kremer, daughter of C. E. Kremer, Esq., proctor in admiralty and who is legal adviser for the transportation company. The Illinois will run between this city and Mackinac Island. She was built at a cost of $250,000, and her commander will be Capt. W. M. Finucan. The keel of the boat was laid last September. Her length is 240 feet, with 40-foot beam and a tonnage of 1,600, with machinery capable of developing 2,000 horse-power. The interior equipment will be especially fine, and every convenience will be supplied for the passenger service. Sleeping accommodations for 200 passengers will be provided. When finished the Illinoes will be one of the best passenger steamers on the lakes.

Charles H. Thorne, secretary of the Chicago Yacht Club, has received the first official information of the date of the international races between Canada and America. The letter finally settling this matter, which has interested yachtsmen throughout the country for the past few months, reads as follows: "Charles H. Thorne, Secretary of Chicago Yacht Club—Dear Sir: In reply to your favor of the 3rd inst., regarding settlement of date for Canadian cup races, I am requested to inform you that our committee this day fixed the date of the first race of the series for Monday, August 21st, and the course to be sailed, south of Toronto Island. We understand this decision will be favorable to you, and may now be inserted in our respective agreements governing the race. The committee begs to apologize for the delay in naming the date, for which, however, they are not wholly responsible. Richard Leaver. Honorable Secretary Royal Canadian Yacht Club." Although the Canadians have decided that the races shall begin August 21st, before the date is ratified a meeting of the Chicago Yacht Club will be held to see if it is agreeable to all those interested in the contest. It is almost certain, however, that there will be no change in the date, as the local men have always desired the race held the last part of August.

London Lloyds policies for this season are not so inclusive and liberal as formerly. The collision clause especially has been revised. There are some of the larger lines that took out insurance for a period of years and these, of course, will come under the old policies. The old line companies issued their rates here this week and they show an advance on all classes of boats and on the lower grades the rates are prohibitory. The season of navigation, which extended until December 12, for the two years past, is made to end December 1, and the excess charge on vessels out after that time is so high that practically everything will be in port by the end of November. The new tariff is the direct result of the low rates and heavy losses which brought chaos into lake insurance last season. Three months' credit is given on premiums. Charges for insurance after the close of navigation are: Two per cent. of premium paid per day on steamers and 4 per cent. for sail and tow. Vessels must be at sea December 1 to get extensions. There are several restrictions regarding losses, amount of valuation in policies and general terms of the policies, which makes insurance much less valuable to vessel owners than it has been, and there is a great discrimination made on wooden bottoms, the rate being almost doubled. Thus far the Prime-McCurdy syndicate, which controlled so large a part of the business last year, has not yet made public its policy terms for this season.

The secrecy surrounding the construction of yachts for the trial races of the Chicago Yacht Club has been partially broken, and the first authentic points on the lines of the Veva, in plank at South Chicago for the Peare-Smith-Lytton syndicate, can now be given. In a sense she will be an experiment that gives her an almost sure classification as a "freak," but known lines have been used in the design, and she may show her stern to other boats in the trial races. The Veva will be forty feet over all and have a water-line length of about thirty-three feet. The peculiar part of her construction will be the hull, which is given a foot and a half depth. Her beam will be eighteen feet. In model the new boat is nearly an approach to the out and out fin-keel, and a wetted surface cut to the last possible inch. A rounded body with all the sail that can be put on is what the designer is working for on the Veva, and if he succeeds she will carry more sail in proportion to her water-line dimensions than any of the other boats that enter the trial races. Designer A. C. Cuthbert has the Veva well along, and will be ready to launch about the middle of May. Something of his plan for the keel of the Veva is known from the new design he has given the keel of the Siren. The 500 feet of sail that the Veva carries is calculated to give her speed, and quickness of turn is expected from the keel shape. The Whitely and Morgan boats are still unknown quantities so far as their lines are concerned, and it is unlikely anything will be known of them before their launchings.

CLEVELAND.

Special Correspondence to The Marine Record.

Last year the passenger steamer City of Buffalo made her first trip to Buffalo April 3d.

The steamer Samuel Mitchell, Capt. Thomas Wilford, traveled 47,200 miles last season, the longest distance got out of any lake steamer.

The steamers Sitka, Olympia and W. D. Rees and the schooner D. Z. Norton of the Wilson fleet, left for Lake Michigan on Wednesday night with coal.

The freight situation has about settled down to 50 cents Escanaba and 60 cents Lake Superior on iron ore, and 30 cents on coal Lakes Michigan and Superior.

The fine summer weather experienced during the past several days has knocked ice in the lakes galley west, and navigation has been resumed by the opening of the Straits of Mackinac with the passage of the Ferdinand Schlesinger with coal to Milwaukee, on Wednesday, closely followed by the Neosho and other large steamers.

Dredging should be started at once, especially just below the Lake Shore bridge and near the river custom house. Great difficulty was experience in getting the first cargo of ore to a discharging dock on Wednesday, and cargoes will not be consigned to this port if it is reported as being unsafe or not navigable for vessels of the larger class.

Quite a large fleet cleared from this port during the week. As early as Tuesday morning a dozen was bunched in a fog in the vicinity of Pelee passage, slowly feeling their way and in no hurry to get over the ground. The intention of the masters was to proceed slowly from point to point as the ice cleared and to be ready at the Straits of Mackinac when a passage could be forced.

A meeting of the executive committee of the Lake Carriers' Association was held at the office of Capt. James Corrigan on Wednesday. Messrs. L. C. Waldo, of Detroit, and A. B. Wolvin, of Duluth, were also present. The grain shoveling committee reported that a contract was closed with W. J. Connors, of Buffalo, for shoveling all the grain at that port at the rate of $3.10 per 1,000 bushels. The contract is practically the same as last year. The committee adopted the coal and grain bill of lading agreed upon at the general meeting held a few weeks ago.

A report from Duluth states that the board of health met on Monday to consider the matter of presenting to the common council Health Officer Webster's statement of smallpox conditions at Cleveland, and the matter of quarantining all boats from that port. It was decided to present the matter to the council. The board of health authorities claim that the matter is much more serious than most people think it. The government health report shows that in Cleveland between Dec. 25 and April 1, there were 102 cases of smallpox and one death. In Cincinnati between Jan. 23 and March 31, there were 198 cases and four deaths.

Mr. J. C. Wallace, general manager of the American Ship Building Company, returned from New York Wednesday morning. Mr. Wallace said that the officers of the Cleveland Ship Building Co., on the viaduct, will be the headquarters of the new company. A meeting of the directors will be held here next Wednesday, when superintendents for the different yards will be appointed and other details arranged. It is now stated that Mr. W. I. Babcock of Chicago will be chief designer and assistant general manager, and that W. E. Fitzgerald, of Milwaukee, will have charge of the yards at Chicago, Milwaukee and West Superior.

Col. Jared A. Smith, Corps of Engineers, U. S. A., in charge of the conservancy and improvement of rivers and harbors in this district, is an exceedingly busy man these times, besides the work to be done at this port, including pier and breakwater building, large repair work, dredging, etc., similar work at almost every port in the district has been planned and will be carried out as promptly as possible though at several ports the work will be continued all summer. All marine interests are at one in awarding Col. Smith the palm for being the most energetic and well-advised engineer that has ever been detailed to duty in this district.

The following data, covering a period of 28 years, have been compiled from the Weather Bureau records at Cleveland, Ohio: Month May for 28 years. Temperature—Mean or normal temperature, 57°; the warmest month was that of 1896, with an average of 66°; the coldest month was that of 1882, with an average of 52°; the highest temperature was 93° on May 30, 1879; the lowest temperature was 28° on May 1, 1876. Average date on which the first "killing" frost occurred in autumn, Oct. 11; average date on which last "killing" frost occurred in spring, May 1. Clouds and weather—Average number of clear days, 10; partly cloudy days, 13; cloudy days, 8. Wind—The prevailing winds have been from the southeast; the highest velocity of wind was 60 miles from the southwest on May 23, 1892.

JAS. KENEALY, Local Forecast Official,
Weather Bureau.

Mr. Waite, a colleague of Capt. John Millbank, whom many Cleveland vessel men will remember visiting this port several times as the representative of underwriters at Lloyds, London, made a contract with Capt. James Davidson, of West Bay City, on Tuesday, to release the Harlem ashore on Isle Royale, Lake Superior. The terms are on the old favorite principle of Lloyds, "no cure, no pay." The last heard of the Harlem is that the hull was completely embedded in ice and it is the view of an experienced ship builder that if there is any heavy weather existing when the ice begins to thaw and break away that the hull will be so shattered as to render it worthless; however, a total loss amounting to $190,000 was promptly paid the late owners of the Harlem by Lloyds' underwriters, and if there is anything to be saved out of this sum, they will save it, or at least Capt. Davidson will make a strong effort to do so.

A report this week to the effect that Health Officer Webster, of Duluth, intended to quarantine the port of Duluth against Cleveland because of smallpox, stirred Health Officer Leick up considerably. He at once wrote to the Duluth health guardian and stated in plain language that the smallpox had not reached an epidemic in this city, and that such an action would be entirely unnecessary and even discourteous to this port. Vessel owners would suffer the chief loss on account of the uncalled for detention if quarantine were enforced, though in cases where a clean bill of health could be shown the detention to cargo steamers need not amount to more than thirty minutes, or the time occupied by the examining officers in glancing over the crew, who would be already mustered for the occasion. In the case of passenger steamers touching at this port en-route to the head of the lakes, the detention would be more serious, as also it would be should any type of sickness be found among the crew of a cargo boat. It is not likely that Duluth will so discriminate against this port nor is there any reason for so doing.

AMHERSTBURG, ONT.

Special Correspondence to the Marine Record.

The schooner Typo with coal for Mullen Coal Co. is discharging cargo here.

Whaleback 202 and car-ferry Tycoon were taken by the tug Chamberlain to Fairport and Cleveland respectively on Saturday.

U. S. sounding crew, testing bottom just below here, found 15½ spot near Canadian or east side of proposed cut on Monday.

Steam barge Alaska broke her cross-head opposite here Sunday. Repairs were made here. She had a cargo of cedar from Alpena and reported no ice.

Capt. Hackett and his steam scow are doing a land office business picking up anchors and tow lines lost last fall by the ice-imprisoned fleet at the mouth of the river.

The tug L. Birckhead came over Thursday and took the wrecked schooner H. H. Badger and John Schulte to Toledo. A lighter will be made of the Badger.

Capt. John Hutton, who sails the A. A. Parker, lost his 18-year-old son on Wednesday last of typhoid fever. A. A. Parker and others chartered the steamer Douglas and came down to the funeral.

The U. S. light-house tender Haze has been engaged during the week placing light ships, gas buoys, stakes, etc. Grosse Point, Bar Point, Lime Kiln Crossing, Ballard's Reef, are now all in place.

Contractor Sullivan has two derricks with divers removing boulders from the crossing. About 90 tons a day are being removed in this way and some 500 to 700 yards of rock with the dredges.

The tug Home Rule left Tuesday with a crew to repair the break in the cable between Pelee Island and the mainland. Vessel men wonder why the Canadian government are so slow in placing the gas buoys at Middle Ground and South East Shoal. The Haze filled them 10 days ago and they are lying here yet.

The Great Northern R. R. Co. has awarded the contract for the steel superstructure of its West Superior 2,000,000 bushel grain elevator to the Riter-Conley Manufacturing Co. of Pittsburg, Pa. The contract amounts to about $800,000. The foundation of this elevator, which is to be the largest steel elevator in the world, will not be ready before August. and it will be impossible to get the steel so as to finish the structure before next year.

CANADIAN CANALS.

The following facts having reference to Canadian canals are taken from the report of the Department of Railways and Canals for the fiscal year ending June 30, 1898, just issued:

The expenditure charged to capital on the original construction and the enlargement of the several canals of the Dominion up to June 30, 1898, was $72,504,401. A further sum of $15,067,096 was expended on the repairs, maintenance and operation of these works, making a total of $87,571,498. The total revenue derived, including tolls and rentals of lands and waterpowers, amounted to $11,710,240. The expenditure for the fiscal year ending June 30, 1898, was as follows: On construction and enlargement, $3,207,249, and a further sum of $624,755 for repairs, renewals and operation, making a total for the year of $3,832,005. The net revenue for the year was $407,662, an increase compared with the net revenue of the previous year of $22,882. The net canal tolls amounted to $344,057, an increase of $22,429, and the rents received to $44,050, a decrease of $549. The total expenditure on canal staff and maintenance, repairs and renewals amounted for the year to $624,755, a decrease of $8,520, and the total net receipts amounting as above to $407,662. The amount of expenditure in excess of receipts was $217,093 compared with an excess expenditure the previous year of $248,495. The following features of the principal canal traffic during the season of navigation of 1897 will be of interest: On the Welland canal 1,274,292 tons of freight were moved, a decrease of 5,695 tons; 1,050,093 tons passed eastward and 224,199 westward; 1,244,750 tons were through freight, of which 1,026,458 tons passed eastward. Of this through freight Canadian vessels carried 345,977 tons, an increase of 4,847 tons, and United States vessels 898,773 tons, a decrease of 3,693 tons. The quantity of grain passed down the St. Lawrence canals to Montreal was 560,254 tons, an increase of 99,205 tons compared with the previous year; of this 89,659 tons were transhipped at Ogdensburg, as against 461,049 tons carried down in 1896, of which 77,355 tons were transhipped at Ogdensburg. The further quantity of 43,023 tons of grain passed down the St. Lawrence canals only to Montreal, making the total 603,277 tons. Seven cargoes of grain, aggregating 2,324 tons, were taken down direct to Montreal through the Welland and St. Lawrence canals.

On the Sault Ste. Marie canal the total movement of freight was 4,947,063 tons, an increase of 369,660 tons, carried in 4,268 vessels, the number of lockages being 2,604. Of wheat 17,924,802 bushels, and of other grain 3,253,405 bushels were carried; 1,093,456 barrels of flour, also 3,572,854 tons of iron ore and 7,799,156 feet, board measure, of lumber; all these items show a considerable decrease. The total traffic at the point accommodated by the two canals, the American and Canadian, amounted to 18,986,689 tons, an increase of 1,730,266 tons, carried in 17,080 vessels, a decrease of 1,497. The total quantity of wheat carried was 55,931,779 bushels, a decrease of 7,532,097; and of other grain 24,968,136, a decrease of 2,747,129. Of lumber the total was 802,240,156 feet, board measure, an increase of 113,366,356. As having an interesting bearing on the question of canal versus railway transport of grain from the west, it may be noted that whereas grain and peas passed down to Montreal through the St. Lawrence canals to the extent of 560,254 tons, an increase of 64,386 tons over the previous year, the quantity carried to Montreal via the Canadian Pacific and G. T. R. amounted to 228,586 tons, an increase of 74,869. The quantity of grain carried to tidewater on the New York State canals was 569,362 tons, a decrease of 183,677 tons, while the quantity carried by the railways of the State to tidewater amounted to 4,132,740 tons, an increase of 267,980 tons.

Mr. Collingwood Schreiber, the Chief Engineer of Railways and Canals, reports a marked improvement in the manner in which the St. Lawrence canal deepening works are being carried on. The necessity for fulfilling the wishes of the Government, and the general expectation that the canals should be opened for a fourteen-foot navigation next spring has been strenuously urged upon the contractors from time to time, and they have responded by the increase of their plant and the extension of their organizations—as required of them—putting forward every effort to place their respective sections in a condition for operation by the desired date.

THE DAVIDSON SHIPYARD.

The Davidson shipyard, West Bay City, Mich., is now giving employment to more than 500 men and work on the two big new schooners is being rushed to completion. Almost every available place in the yard where men can work is taken up. The planking on the boats is almost completed and it is expected that the vessels will be launched in thirty days. They will be fitted with steam windlasses and capstans as well as the automatic steam towing machines. They will each have two spars fitted with sails and will be two of the heaviest carriers in the Davidson fleet.

Several boats lying at the yard are being repaired and will be ready for loading by May 1. Plans are almost completed for a large lake tug to be built for Port Huron parties and work will be commenced on her within the next two weeks.

LLOYD'S REGISTER SHIP BUILDING RETURNS,

(FOR THE QUARTER ENDED 31ST MARCH.)

From the returns compiled by Lloyd's Register of Shipping, it appears that, excluding warships, there were 597 vessels of 1,385,715 tons gross under construction in the United Kingdom at the close of the quarter ended 31st March, 1899.

The present returns show very little falling off from the unprecedently high figures which were reported at the end of 1898. The decrease amounts to about 15,000 tons, or little more than 1 per cent. of the work then in hand.

Of the vessels under construction in the United Kingdom at the end of March, 516 of 1,097,656 tons are under the supervision of the surveyors of Lloyd's Register with a view to classification. In addition 47 vessels of 143,658 tons are building abroad. The total building at the present time under the supervision of Lloyd's Register is, thus, 563 vessels of 1,241,314 tons. Details of this total follow:

	No.	Gross Tonnage.
Building in United Kingdom for home account, for sale, etc.	451	948,843
Building in United Kingdom for foreign and colonial account.	65	148,658
Building abroad	47	143,658
Total building on 31st March for classification in Lloyd's Register book	563	1,241,314

The following details concerning the shipbuilding work of the United Kingdom during the past three months may be added:

During Quarter Ended March 31, 1899.	Steam. No.	Steam. Gross Tonnage.	Sail. No.	Sail. Gross Tonnage.
Vessels commenced	175	347,013	4	512
Vessels previously commenced, but on which no further progress has been made	15	10,230	3	215
Vessels launched	162	300,250	3	286

SIZE OF VESSELS UNDER CONSTRUCTION.

(Warships excluded.)

The following table shows the vessels under construction in the United Kingdom classified according to gross tonnage:

Tonnage.	Number. Steam.	Sail.
*Under 50 tons	2	6
*50 to 99 tons	11	8
100 to 199 tons	139	11
200 to 499 tons	64	4
500 to 999 tons	29	....
1,000 to 1,999 tons	60	....
2,000 to 2,999 tons	40	....
3,000 to 3,999 tons	101	....
4,000 to 4,999 tons	34	....
5,000 to 5,999 tons	34	....
6,000 to 6,999 tons	20	....
7,000 to 7,999 tons	12	....
8,000 to 8,999 tons	1	....
9,000 to 9,999 tons	6	....
10,000 tons and above	15	....
Total	508	29

*Vessels of less than 100 tons are not included in Lloyd's Shipbuilding Returns unless they are intended to be classed in the Society's Register Book.

THE annual meeting of the stockholders of the Joseph Dixon Crucible Company was held at the company's main office, Jersey City, N. J., Monday, April 17, and out of a posslble vote of 7,345 shares, there were 7,069 shares voted for the re-election of the old board, consisting of Edward F. C. Young, John A. Walker, Daniel T. Hoag, Richard Butler, William Murray, Alexander T. McGill, and Joseph D. Bedle. President, E. F. C. Young; vice president and treasurer, John A. Walker; secretary, Geo. E. Long, were re-elected by the directors. Judge Joseph D. Bedle was also re-elected as counsel.

SUMMARY OF ICE CONDITIONS.

The ice in Lake Superior has not changed materially during the past week except to soften up; large fields cover the lake at the west end and from Marquette eastward to Whitefish Point; at the latter place there is some open water in the bay, but no water in sight out in the lake. The "Soo" river is open from Round Island to Encampment and the ice is softening rapidly in Mud Lake. In Green Bay the ice has been broken up by the passage of the Ann Arbor car ferry which reached Gladstone on the evening of the 23d. At the Straits the ice is softening rapidly and reports this morning indicate that it will move out under influence of brisk winds; the steamer Fletcher will try and force a passage to-day. No ice is reported from Lake Huron ports, the steamer Douglas encountering none on her up passage Monday. In Lake Erie the ice is confined to the east end and about Buffalo, where the conditions have not changed materially, the ice being broken up in large fields, but it is thought will not offer serious obstruction to navigation. In Lake Ontario the large ice field remains at the foot of the lake and the ice is beginning to run the river.

The opening of the Straits will occur this week and the passage of the "Soo" river may be forced by May 1st. General navigation will probably be resumed this week on all lakes except Superior, where the large amount of ice will still offer some obstruction to navigation.

The display of signals which has been delayed since the 15th inst., on account of the ice, will be resumed on all lakes but Superior on April 27, and on Lake Superior as soon as the "Soo" locks are open.

LAKE SUPERIOR.

Duluth, April 23.—Harbor one-fourth covered with badly broken and honey-combed ice, which shifts with the wind. Outside ice consists of closely joined and rather small floes which extend lakeward as far as the eye can reach; ice averages about 12 inches thick. General navigation expected to open between May 1st and 10th.

Two Harbors, April 22.—Considerable ice in this locality, but it is broken up and will offer no serious resistance to navigation by the time vessels pass the "Soo."

Bayfield, April 22.—On account of unfavorable weather the ice remains in about the same condition as last week; it is honey-combed and unsafe for crossing to the islands; with strong favorable winds it will move out.

Ashland, April 22.—The continued cold weather holds the ice in about the same condition as last week.

Eagle Harbor, April 21.—Ice in bay and harbor honeycombing and will soon break up; there is open water several miles wide along the shore.

Marquette, April 22.—The ice in bay and harbor has melted fast during the week, and contains many air holes. The lake is covered, as far as the eye can reach, with a stationary field of ice.

Whitefish Point, April 23.—The ice in the bay has been moving slightly for the past three days; it has cleared for about five miles toward Point Iroquois; from the light-house tower there does not appear much broken ice in the lake; the warm weather is cutting it.

Sault Ste Marie, April 25.—Practically clear from Whitefish to Encampment: Mud Lake reported well broken up; believe boats can get through with very little difficulty.

LAKE MICHIGAN.

Gladstone, April 23.—From four to eight inches of soft, honeycombed ice now in bay: Ann Arbor ferry reached this port at 6 p. m.

Escanaba, April 33.—The ice in the harbor is broken up and will move easily with the wind; Ann Arbor car ferry passed here for Gladstone at 2:20 p. m.

Mackinaw City, April 25.—Ice broken and soft; fresh wind will clear the Straits; steamer Fletcher will try to force passage today.

LAKE ERIE.

Erie, April 22.—Very little ice in the vicinity of this station. The Cleveland canal boat fleet arrived on the 21st and left same night for Cleveland, meeting with little ice.

Buffalo, April 24.—A marked deficiency in wind leaves ice in about the same position, but in a much more broken condition and rotting very fast. It is believed navigation could be conducted with safety. Large fleet of boats ready to clear, awaiting for the ice to break, and it will probably be Wednesday or Thursday before any will leave.

LAKE ONTARIO.

Cape Vincent, April 22.—The foot of the lake is still filled with ice, and now running in the river; steamers making regular trips to Kingston.

NORMAN B. CONGER,
Local Forecast Official, Marine Agent.

AN illustrated catalogue of the high-grade thermometers, hydrometers, barometers, guages, etc., manufactured by the Hohmann & Maurer Mfg. Co., Rochester, N. Y. This catalogue covers a large variety of meters of various sizes, together with detailed descriptions and sectional views, methods of testing, and table of temperatures for the boiling points of water at different altitudes. A large number of tables of specifications and price lists will be found of aid to the prospective purchaser.

STEEL SHIP ARTHUR SEWALL.

(ILLUSTRATED.)

Even the oldest heads are at logger-heads to name the rigs of modern tonnage. The illustration presented herewith may be a shipentine, but we can't recognize the word. Again, she may be a barque rigged ship, but she can't be both; or rather, a bark rigged ship is a misnomer. Of one thing though we can be certain, she is a full rigged ship with a jigger mast, and, perhaps, so as not to weary our readers, we may as well let it go at that.

Arthur Sewall & Co., Bath, Me., are owners of the largest sailing ships in the United States, and were they not shipbuilders as well as ship owners they probably would not find it profitable to continue constructing sailing ships in these latter days of the nineteenth century.

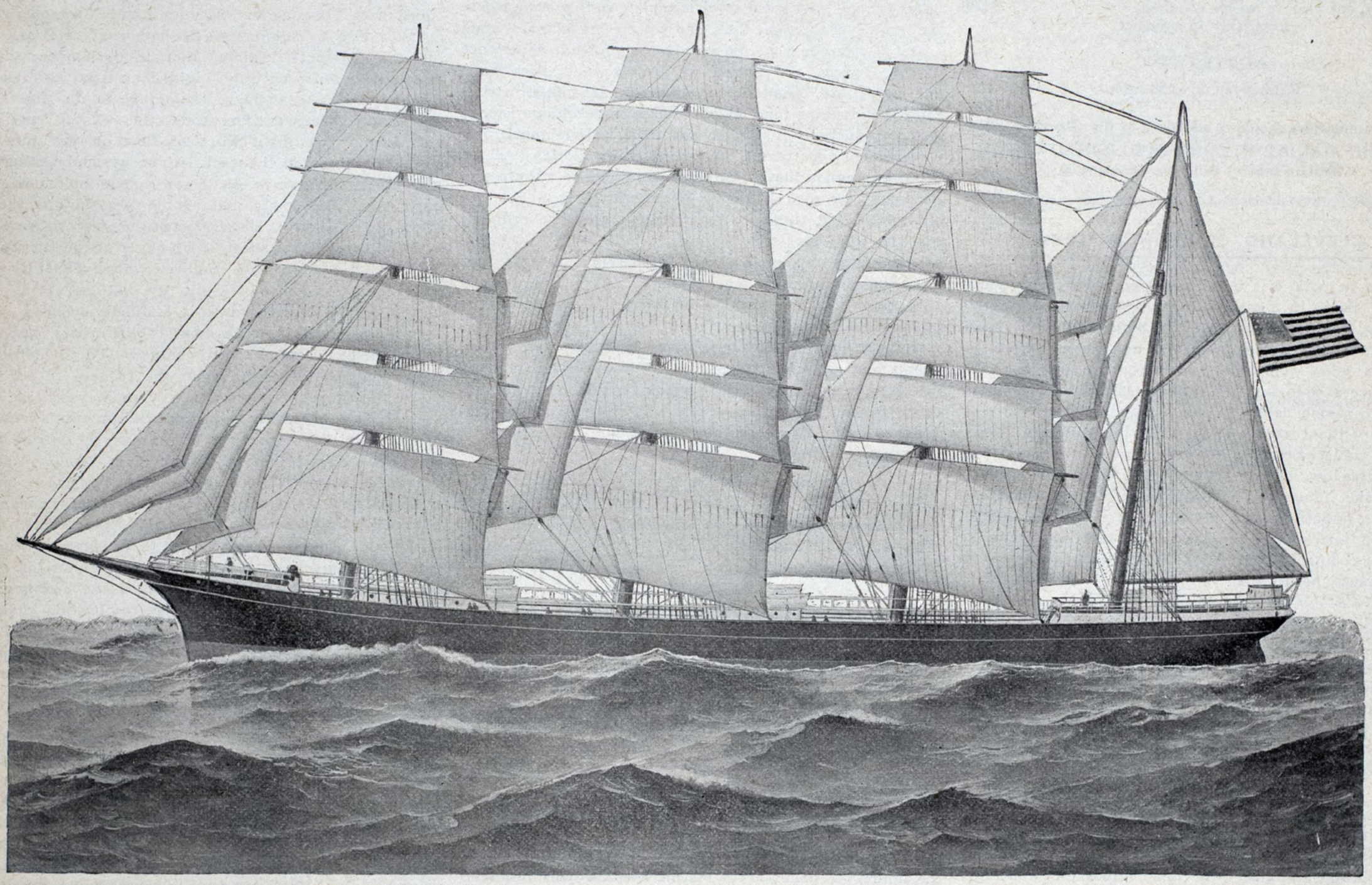
Mr. Arthur Sewall, right or wrong, believes that large steel sailing ships will find profitable employment in the deep water trade as long as the wind blows. The ship Arthur Sewall is the second of the 97 vessels built by the Sewalls which has borne the family name. The other was the ship Wm. D. Sewall, built in 1848, which was the twenty-third vessel built by the firm up to that time. The general dimensions of the Arthur Sewall are: Length over all, 340 feet; keel, 320 feet; beam, 45 feet; depth, 25 feet 9 inches; gross tonnage, 3,209 tons. She has lower masts, bowsprit, topmasts and lower yards of steel. Her masts from keel to truck are 184 feet long. She will spread about 12,000 yards of canvas. Her equipment for labor saving and convenience in handling includes steam power for deck winches, windlass, pumps, etc., and she will carry a crew of 31 hands, which include a number of apprentices. Her commander is Capt. James F. Murphy, who has been in the Sewall employ for many years and who lately had charge of the big wooden ship Shenandoah, now commanded by his son, Wilder Murphy. On the poop deck is the chart house, finished like the rest of the apartments in white enamel.

The Arthur Sewall is the third steel ship built by the Sewalls, the others being the Dirigo, in 1894, and the Erskine M. Phelps in 1898. She is the largest of the three and work upon another of the same dimensions has begun; the forthcoming ship will be of about the same model and rig and equipment as the one here described with the exception of being a little deeper and with the omission of a "whaleback" on the forecastle and bustle aft. The Sewalls abandoned wood construction after launching the Roanoke in 1892 and now have an excellent steel shipbuilding plant.

The Arthur Sewall has been built under the rules of the American Bureau of Shipping, New York, and will be classed in the well-known and universaily accepted classification society known as the Record of American and Foreign Shipping.

There are many of the keenest and most experienced men in affairs maritime who believe as Mr. Sewall does regarding the life, utility, economy and everlasting usefulness of large sailing ships, on the other hand, outside of a protected trade, like our coast and lake service, the cheaply built, sparsely equipped, and half manned, measly and meanly run tramp steamers take everything in sight outside of the trade around either of the Capes, Horn or Good Hope.

The RECORD is indebted to the courtesy of the American Shipbuilder, New York, for the reproduction of the accompanying cut, as well as a portion of the descriptive matter contained in the foregoing.



THE NEW FOUR-MASTED STEEL SHIP ARTHUR SEWALL. BUILT AND OWNED BY ARTHUR SEWALL & CO., OF BATH, ME.

By the courtesy of the American Shipbuilder, New York.

VESSELS CLASSED.

Vessels classed and rated by the American Bureau of Shipping in the "Record of American & Foreign Shipping:" Screw steamer, Hamilton, owned by the Old Dominion S. S. Co.; ship, Benj. F. Packard, ship, Emily Reed; ship, Mary L. Cushing, and British schooner, Lily B. Hirtle.

THE American Steel and Wire Company has made a bid for the construction of the big cable which it is proposed to lay to the Hawaiian islands from the Pacific coast. Charles S. Weiss, an expert in the matter of construction and laying ocean cables, has been consulting with the company officials, and investigating the cost and condition of the company's materials. He says that the probability of America securing the contract is very good.

EASTERN FREIGHTS.

Messrs. Funch Edye & Co., New York, in this week's report to the RECORD state as follows:

Our freight market shows no improvement since we last wrote, and we are confronted with the prospects of an entire cessation of grain charters. Parcel freights by liners have declined to a figure which renders any engagement beyond vessel's requirement for ballasting unprofitable. The demand for timber boats from the Gulf has flattened out quite considerably, whilst the liberal offering of tonnage from the provinces has exhausted the stock of deals obtainable for prompt steamers, and, whilst reducing quotations for near boats, has equally affected rates for later shipment. Steamers for case oil and general business are not much enquired after, and we see no prospects of a restoration of our market to a fairly well paying basis in the near future.

Our market for sail tonnage remains firm, without much animation and without particular change in rates. We can report a few charters for case oil to the East, on about full former terms, and it now looks as if no further decline may be expected shortly. Colonial freights are rather less firm, although we have no knowledge of any important reduction in rates. The demand for naval stores trade remains fair, but not very brisk; former prices continue being paid. In other lines we can report nothing new.

THE report on the effect of the gun fire of the United States vessels in the battle of Manila Bay, by the intelligence officer of the U. S. S. Baltimore, has lately been received. In transmitting it Admiral Dewey calls attention to the value of the information contained. The conclusions drawn by Lieutenant Ellicott at the end of his report, according to Richardson Clover, Commander U. S. N., Chief Intelligence Officer, are particularly interesting.

COLLISION—Speed of Sailing Vessel in Fog.—A speed of about seven miles an hour under nearly full canvas held excessive for a schooner which collided with a steamer some distance southeast of Nantucket Shoals, where vessels are frequently met with, in a fog so thick that the hull of a vessel could only be seen at a distance of a few hundred feet. The Chattahoochee, 19 Sup. Ct. Rep. (U. S.) 491.

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CLEVELAND, O., APRIL 27, 1899.

A CASE in point has been mentioned this week which tends to show, in a measure, why American underwriters are losing, or have already lost, the bulk of their business. It appears that where a $175,000 risk was taken, $25,000 was placed in home companies and foreign underwriters took the balance of $150,000. The foreign assurers accepted the conditions which called for an actual total loss and paid the same without any caviling, while the American, home, domestic underwriters, split hairs between an actual and constructive loss, with the consequence that the $25,000 is still unpaid. The result of this apparently suicidal business, or, rather, unbusiness-like policy has been that the assured has given instructions to place no more risks with home insurance companies, but to let the foreign offices take all that is or may be required.

THE Chief Engineer, Department of Marine and Fisheries, Ottawa, in his annual report on the hydrographic survey of the lakes, states that: "As opportunity offered observations for the declination of the magnetic needle have been taken with a unifilar magnetometer by Mr. Anderson, and found to be 6° 38′.0 west on Reid Islands, Parry Sound, 6° 53′.0 west at Cove Island lighthouse, 3° 47′.5 west at South Baymouth, and 31° 18′ west at Misery Bay, Grand Manitoulin Island." We would like to ask Mr. William J. Stewart how he could possibly swivel the magnetic needle to nearly three points westerly variation at Manitoulin Island. If this observation is correct it ought to be widely heralded. Or is it simply a typographical error in an important publication issued by the Dominion government? There are all sorts of advertising fakes called blue books, but we look for authentic and accurate work in a government blue book.

A BOILER explosion under somewhat unusual circumstances occurred recently, in an English shipyard. A boiler was worked at 50 lbs. pressure and was in good condition, but the steam guage got out of order and although this defect was apparently remedied, the guage is clearly proven to have been the cause of the explosion. When the superintending mechanic found that the safety valve blew off at a low indicated pressure, he acting on the belief that the steam guage was then accurate, proceeded to "fix the safety valve." The prompt result was an explosion, killing this man, wounding others and doing considerable damage to property. At the official inquiry which followed it was decided that the explosion was attributed to the boiler being worked at about 250 lbs. pressure, while the guage only indicated 16 lbs. Here was a case where an extra or pop valve would have prevented the accident by showing to the most ordinary intelligence that the error lay with the steam guage. Moral, it is as dangerous to monkey with a safety-valve as with a buzz saw.

WONDER what the Hydrographic Office, U. S. N., Washington, D. C., is or was trying to arrive at in sending out broadcast the following information, or mis-information, in the last issue of "Notices to Mariners":

"(19) LAKE SUPERIOR—Apostle Islands—Wreck of the steamer Harlem.—The steamer Harlem was wrecked near Menagerie Island, Apostle group, in Lake Michigan, on November 26, 1898. The vessel is probably a total loss, for when last seen in the fall of 1898 she was breaking up.
(N. M. G. L. 2, 1899.)
(B. H. O. Report, Duluth, Minnesota, April 1, 1899.)
H. O. Chart No. 1474.
U. S. Engineers' Charts Nos. 80 and 36.
H. O. Publication No. 108, 1896, page 38."

We may state for the information of the Hydrographer that Menagerie Island is not in or near the Apostle group. Furthermore, the Apostle group is not in Lake Michigan. Moreover, a wrecking expedition has just been engaged to release the Harlem, and it ill becomes a Government department to throw cold water, as it does here, on a private undertaking. The Harlem was accepted as a total loss by the underwriters, so was the steel steamer Orr that stranded in the locality at the same time, and yet the Orr is now as good a boat as ever she was. So may be the probable experience of the Harlem. Of course, we are all prone to err, make and perpetrate blunders, but ordinary flat-footed mortals can't help looking for a degree of exactitude and proficiency in the productions of a highly skilled technical branch of a Government department. While touching on this topic, it is our impression that in the same pamphlet of "Notices to Mariners" we read a bearing given as E. N. E. ¾ E. We are aware that there is no arbitrary rules but ordinary practice would give this bearing: E. by N. ¼ N. Quoting an expression of coinage, no one would say, 115 cents, but, according to ordinary and common parlance, $1.15; and this, we think, is a parallel instance in expression to the compass bearings given above. However, the query still remains relative to Menagerie Isiand being in the Apostle group, and whether there is an Apostle group on Lake Michigan or not? Or how, in which manner whatever, has this "Notice" become so jammed in a bight as to be jumble-eyed out of all recognition?—as we dare say, even of the Hydrographer himself.

THE thanks of the RECORD are due to the Hon. Louis Henry Davies, the Dominion Minister of Marine and Fisheries, for an advanced copy of the thirty-first annual report to the Dominion government.

A MARINE HOSPITAL FOR BUFFALO.

At a meeting of the legislative committee of the Lake Carriers' Association, held on Thursday last at Buffalo, Dr. J. B. Stoner, surgeon in charge, appeared by request of Secretary Keep and explained to the representative men in attendance the desirability of the location of a United States marine hospital in Buffalo.

At the annual meeting of the Lake Carriers' Association, the subject was brought up, discussed at some length and referred to the legislative committee, under whose consideration it more properly comes.

On Thursday the first full meeting of the committee since the annual was held and the marine hospital question taken up. The subject was viewed from every point and when Dr. Stoner had explained some particulars, not thoroughly understood, a motion to endorse the plan was carried without a dissenting voice.

Secretary Keep was instructed to draft a set of resolutions commendatory of the project for the erection of a marine hospital at Buffalo and was directed to send copies of the same to the local representatives at Washington, and to other prominent men whose influence would be of benefit in securing the action desired by Congress.

The resolutions will contain the pledge of the committee to direct its best endeavors toward securing the passage of a bill along the lines suggested by Dr. Stoner; will set forth the urgent need of such action by the government, and, in brief, explain the purposes and benefits of such a building.

The members understood that with the increased growth of the city, the regular hospitals are becoming inadequate to the demand, and that it is only a question of a short time when the government will be forced to rent a building for the sole use of marine patients, unless a new one is constructed.

Resolutions have been adopted, strongly favoring the establishment of a marine hospital at Buffalo, by the Masters and Pilots of Steam Vessels, the Shipmasters' Association and other marine organizations. With the unanimous support of the legislative committee of the Lake Carriers' Association, there would seem to be no possibility of opposition from any quarter.

Supervising Surgeon Walter Wyman, who is at the head of the Marine Hospital Service of the United States, will, it is expected, lend his influence and encouragement to the plan. Chicago has a marine hospital building worth $250,000, and Detroit and Cleveland each one that cost at least $75,000. Buffalo, it is stated, treats annually more marine patients than Cleveland and Detroit combined.

AN INVALID OBJECTION TO DAMPER REGULATORS.

Once when a certain engineer cleaned one of his boilers he found some scale, that had been thrown down from the tubes, on the crown sheet. He also found that said crown sheet was burned because the water had been kept from the plate by the accumulation of sediment. Under such circumstances it became necessary for him to find some scapegoat, or else to admit that he had been careless. He, therefore, promptly claimed that, as his damper regulator closed the damper when the highest pressure allowed was reached, it caused the flames to impinge on the fire sheet, and so much heat was concentrated there that it caused it to be burned. Now, if we have a good fire on the grate and close the damper in the stack, when we look through the holes in the fire door we shall see a mass of flames seething, curling, and slowly making their way towards the rear of the boiler, and this has suggested the idea that more heat is in contact with the sheet with a closed than with an open damper. An enterprising engineer, whose name I have forgotten, tapped a gauge cock into the bottom of the front head of his boiler and opened it at different times. When the fire was forced the cock showed blue steam, but when it burned slowly, water was discharged. This demonstrated that when heat is passing from the furnace through the crown sheet into the water, at a very rapid rate, the water at the bottom is quickly turned into steam and, as a matter of course, if there is a pile of scale on the outside of the sheet the heat will not pass through so rapidly, and the natural consequence is that the sheet is burned, but the trouble always seems to come when the damper is open and the fire burning fiercely. If the damper was located at the bridge wall it might cause the heat to be shut up in the furnace so that much of it would take effect on the crown sheet, but as the damper is in the stack the heat is simply stopped on its way, while the furnace combustion chamber, tubes, and smoke connections are all filled with it, and each part will take up a share. It is impossible to run a boiler with the damper shut, therefore we can not demonstrate just what the effect would be, but we know that boilers are run every day with their dampers wide open, and as long as the sheets are clean no damage is done, which goes to prove that in this case the sediment was the cause of the trouble and not the closed damper. It is possible to regulate the draught by closing the ash pit doors and leaving the damper open, but in that case the heat slowly makes its way to the chimney and causes a loss, while a closed damper will retain the heat and still prevent the steam pressure from rising rapidly. Engineers usually have trouble enough to get improved appliances for use in their plants, on account of the mistaken policy of their employers, so that when some fellow craftsman claims that the automatic draught regulators are dangerous, it tends to make the steam user still more reluctant to invest money in what is sure to bring in fair returns when intelligently cared for, and used in the way its maker intended it to be.—W. H. Wakeman in American Machinist.

SLIGHTLY INDISCREET.

What Capt. Coghlan, U. S. N., said before the Union League and Army and Navy clubs concerning the strained relations that existed between Admiral Dewey and the German admiral, Diedrichs, at Manila, during the American blockade of that port, was undoubtedly true, but as a naval officer, it was indiscreet on the part of the captain to go into the details of the affair in a speech at a semi-public banquet, especially in view of the fact that both the German and American governments have endeavored to obliterate the ill-feeling that was created by the officiousness of Diedrichs.

Capt. Coghlan is a brave officer and a first-rate fighter, but he should abjure banquets. They are not in his line.

ANTARCTIC EXPLORATION.

The present time is peculiarly promising for Antarctic exploration. The fact that three or four expeditions will be in the field at the same time provides the surest guarantee for good results. For it is only by surrounding the Polar regions by a cordon of observers that the utmost value may be obtained from their researches. This was abundantly shown in the international circumpolar work of 1882-83, of which the results are not yet fully manifest. Such a splendid co-operation in Antarctic research is at present too much to hope for, of course; but there are not wanting signs that ere long the civilized Powers of the world will unitedly storm the brim southern stronghold of mystery and tear out the secrets it has guarded so long.

The Antarctic summer would make our winters seem balmy by comparison; the Antarctic Ocean, rolling resistlessly around the mighty loins of the globe, breeds storms that for violence and duration know no equal. Tossed in the roaring path of those world-engirdling gales, ice-islands of a magnitude never dreamed of in the Arctic are whirled like chips in a mill-race, while over their table-topped summits, a thousand feet above the sea, flies the bitter frozen spindrift. These terrors have, however, been dared successfully by such feeble ships in the past that they are lightly spoken of now, for when one remembers James Weddell and what he did in his brig Jane, of 160 tons, accompanied by the cutter Beaufoy, of 65 tons, it seems impossible to believe that the Antarctic Ocean can be so terrible after all. None of those early voyagers had large ships in which to fight the Antarctic, but their deeds remain to attest their seamanship, their courage, and their unquenchable thirst for new discoveries. They nearly all succeeded in reaching the apparently impassable barrier of ice-cliffs that rear their frowning summits in an unbroken line around the Pole. Beyond that eternal wall there may be nothing more than has already been discovered in the Far North, but there may be revelations awaiting the first daring visitors, such as we can not even imagine. One thing seems tolerably evident; whatever be the gain to science from Antarctic discovery, direct mercantile profit is not to be expected. All previous exploration only confirms the conclusion long ago arrived at, that valuable whales and seals are unanimous in avoiding these stormy seas within the Antarctic Circle, even if a revival of whaling was contemplated. Nor has there ever been seen upon the few spots of land discovered any land fauna, the only inhabitants being the quaint but valueless penguin, and the wandering sea-bird. These material defects have no weight of course with your true explorer. The questions of which he seeks settlement are of a higher and more enduring character, pertaining to things not understood of the people, but nevertheless of the deepest import to all in spite of the general inability to appreciate them.

BOILER REQUIREMENTS IN THE NAVY.

The arguments for and against water-tube boilers have been gone over again and again until they are threadbare; but the fact that we must have boilers that are capable of being divided into small units and then are capable of quickly generating steam from a cold boiler, must settle the question. Whatever the faults and virtues of this general type of boiler, it must be used to satisfy the manifest requirements of the service.

We find that water-tube boilers must be used on men-of-war, but we also find a great deal concerning the type of water-tube boiler that must be used.

An increase in the space on board ship devoted to machinery, above the large amount already so alloted, must be avoided. Inasmuch as the grate surface of the new boilers must be greater for the same power developed at the engines, than that in the type of boilers now used, there would naturally be an increase in the boiler-room space required. This must be avoided; and this can be done only by increaing the ratio of grate surface to floor space occupied above that in cylindrical boilers. This ratio must be a large one, and the larger the better.

Considering the crew a ship is sure to have in time of war, and the fact that frequently the water tenders will be new to the ship, and, possibly, even to the type of boiler used, the boilers must not be complex. The number of attachments must be as small as possible to minimize the work of these busy men.

No great efficiency in firing must be required to attain a good efficiency of the boiler. This follows from the fact that the firemen in the navy in time of war are not equal to doing any particular good firing.

The fact that no great efficiency in firing must be expected or required, means that the complete combustion of the fuel must not be attempted in one chamber above the fire. There are sure to be holes in this fire. It will not be the same thickness in one place as in another, and the coal will not lie evenly over the grate. At some point, then, beyond which an opportuity for the economical extraction of the heat from the furnace gasses is afforded, the gases of combustion must be thoroughly mixed and a combustion chamber furnished.

The care of the boiler while steaming must not be attended with any great difficulty. The water level must be steady. This requires a large area of cross section of the boiler at the water level, and in general requires a large amount of contained water in the boiler. This amount of water must not, however, be so great as to interfere with the ability of the boiler to furnish steam quickly from a cold condition.

The parts of the boiler must be afforded a free expansion to make the quick raising of heavy fires under a cold boiler possible without any danger of causing leaks. For the same reason, a good, free circulation of the water in the boiler must be assured. As it is not possible to entirely keep salt water out of the boilers, they must be capable of use with salt water, and the interior must be accessible for cleaning. It must be possible to remove salt and other scale from the water side of the heating surfaces. The tubes must, therefore, be straight tubes and not of very small diameter.

The above conclusions are direct deductions from actual war experience. They must be satisfied to satisfy real war condition.—J. K. Robison, U. S. N., in Cassier's Magazine for May.

ONE of the largest rudders that has ever been cast in the world has been finished by the Pennsylvania Steel Casting Company, of Chester, for the American Line steamship Rhynland. The rudder, which was cast in a solid piece, weighed over 13,000 pounds, and the stern post, which was made at the same time, weighed 9,000 pounds. Heretofore rudders have been made in two pieces and afterward riveted into a solid piece. John Haug, the surveyor at Philadelphia to Lloyds Register of Shipping, stated that no European workers of steel could have made a rudder the size of the Rhynland's in one solid piece.

A SPECIAL general meeting of shareholders will be held in Ottawa, May 1, to consider and sanction a deed amalgamating this company with the Ottawa, Arnprior & Parry Sound Ry. Co. On May 22 application will be made to the Governor-General-in-Council to sanction an agreement entered into between the two companies for their amalgamation, when all persons may appear and be heard. Application will be made to the Dominion Parliament this session for an act to confirm the deed of amalgamation between the two companies and to incorporate them into one corporation under the name of the Canada Atlantic Ry., and to give certain powers as to the issue and redemption of bonds, etc.

FLOTSAM, JETSAM AND LAGAN.

The Russian minister of communications has mapped out a route for world trotters on which he estimates that a round trip can be made in 33 days, upon the completion of the Siberian railway. Starting from Bremen the proposed itinerary is as follows: Bremen to St. Petersburg by rail, 1½ days; St. Petersburg to Vladivostock over the Siberian railway, 10 days; Vladivostock to San Francisco, 10 days; San Francisco to New York, 4½ days; New York to Bremen, 7 days. The speed on the Siberian railway is estimated at 30 miles per hour.

Contracts guaranteeing the use of 15,000 horse-power energy at Duluth, Minn., have been entered into with parties holding the control of water power on the St. Louis river, and it is expected that a company will soon be organized to carry out the project. A 500-foot fall is available between Carlton and Fond du Lac, Minn., and it is proposed to utilize this fall by the construction of ten dams. It is estimated that a maximum of 50,000 horse-power is available. The object in view is to utilize the energy generated in operating the diversified industries of Duluth and Superior, Wis.

There is now being put together, in Seattle, Wash., a steamer built in the Nixon shipyards at Elizabethport, N. J., for navigating the shallow water of the upper Yukon river, in Alaska. The steamer is named the Empire, and has a length over all of 80 ft., depth 5 ft. 6 ins. and draft 2 ft. 6 ins. when loaded. The craft has six independent engines and propellers, working in alleyways or grooves divided at the stern. It was said that the craft had a trial trip before she was shipped west and made 14 knots an hour in 2 ft. of water. It is proposed that in the Yukon service the boat will take five barges in tow. Two boats of the same kind are in use on the upper Nile, above the rapids, having been made for Stanley in his second exploration of Africa.

NAVIGATION DATES AT ESCANABA.

From records in possession of the Chicago & Northwestern Railway, Mr. Henry McFall, and from the back records of the Weather Bureau the following table of opening and closing of navigation at Escanaba, Mich., is compiled :

OPENING.

1867, April 27, boats arrived.
1869, May 6, bay open.
1870, April 17, bay open.
1871, April 11, bay open.
1872, April 28, steamer Truesdell arrived.
1873, May 2, schooner Flying Mist departed.
1874, April 30, several vessels arrived.
1875, April 29, bay open; no arrivals.
1876, April 26, steamer Truesdell arrived.
1877, April 21, bay open; no vessels.
1878, March 5, schooner M. L. Collins, James Garrett and Mocking Bird arrived.
1879, April 25, steamer Menominee arrived.
1880, April 13, three steam barges arrived.
1881, May 3, bay open; 5th, first boat arrived.
1882, April 7, bay open; 8th, Nahant arrived.
1883, April 23, bay open; 24th, tug Shipman arrived.
1884, April 19, bay open.
1885, May 5, steamer Lady Washington arrived.
1886, April 23, tug Joe Harris arrived.
1887, April 28, Manhattan and Progress arrived.
1888, May 2, four I. O. T. boats.
1889, April 4, Manhattan, Merrimac and Massachusetts arrived.
1890, April 15, first boat arrived.
1891, April 30, F. S. Christie arrived.
1892, April 10, tugs Monarch and Delta arrived; 11th, ice went out; 15th, Griffin arrived.
1893, April 27; Andaste arrived.
1894, April 6, tug Daisy Moore arrived.
1895, April 20, F. C. Hart arrived.
1896, April 17, Ann Arbor car ferry to Gladstone; 18th, Virginia arrived.
1897, April 14, Wawa arrived.
1898, April 11, Ann Arbor car ferry to Gladstone; Lockwood and Ketcham arrived.

CLOSING.

1871, Nov. 26, last boat to Green Bay.
1876, Dec. 9, closed; no vessels.
1878, Dec. 29, closed; no vessels.
1880, Nov. 29, twenty-one vessels closed in port.
1881, Dec. 5, Selkirk departed.
1882, Dec. 7, steamer Argonaut departed.
1883, Dec. 9, steam barge Leland departed.
1884, Dec. 2, Morford towing Mineral State departed.
1885, Dec. 1, F. K. Fairbank and Kingfisher departed.
1886, Dec. 25, tug Owen arrived through ice.
1887, Dec. 6, tug Swain with schooner Swallow departed.
1888, Nov. 30, two arrivals; no departures.
1889, Dec. 6, two departures.
1890, Dec. 5, five departures.
1891, Dec. 3, one departure.
1892, Dec. 3, one departure.
1893, Dec. 14, Pillsbury and Washburn arrive.
1894, Dec. 6, Panther departed.
1895, Dec. 3, Griffin cleared; 26th, tug Anna Belle arrived.
1896, Dec. 3, Panther and J. S. Fay departed.
1897, Dec. 23, two boats to Gladstone.
1898, Dec. 14, Phœnix cleared; 19th, Ann Arbor car ferry and Alice Stafford departed from Gladstone.

GEO. B. WURTZ, Escanaba, Mich.
Observer in charge.

MANISTEE.

Special Correspondence to the Marine Record.

The little steamer John D. Dewar is making regular daily trips to Frankfort, and is carrying a good list of passengers.

The passenger steamer City of Charlevoix, of the Northern Michigan Transportation Co., left this port on the 21st, for Chicago, her first trip this season. She looks as good as new in her white paint. Captain Peter McGuiggan, last season in the steamer Petosky, is in command, and James W. Myers, who has been chief engineer on her for four seasons, retains that berth.

Capt. Rasmus Thorsen has been quite busy during the winter repairing the Reitz fleet, recently purchased by R. E. Peters, of Manistee. The tug Ruby, of the John Smith line, is on the boxes for a thorough overhauling and rebuild, consisting of a new stem, plank shear, stanchions all around, outside planking and calking. Mr. Thorson is an old salt water sailor, and has held the berth of second mate in full-rigged ships.

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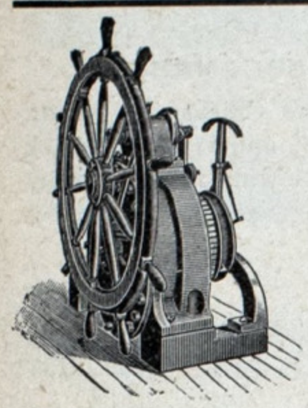

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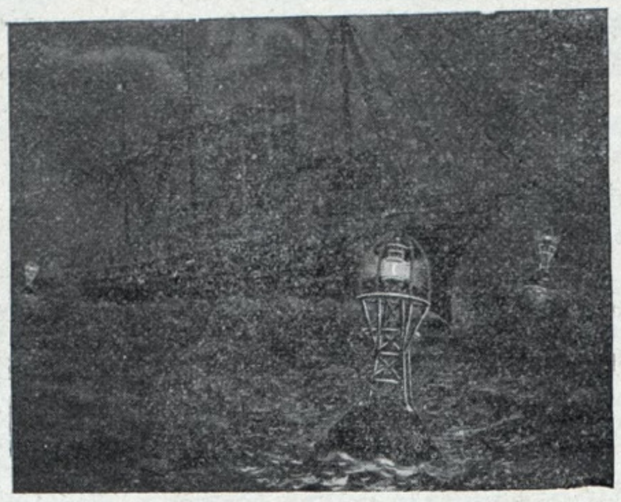

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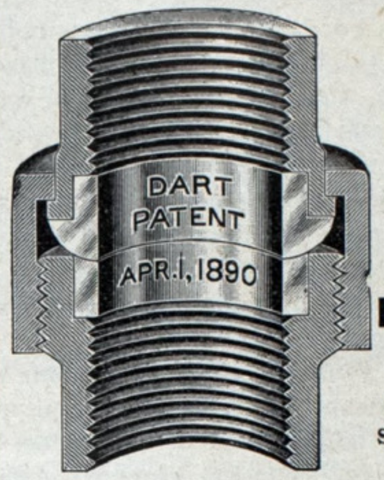

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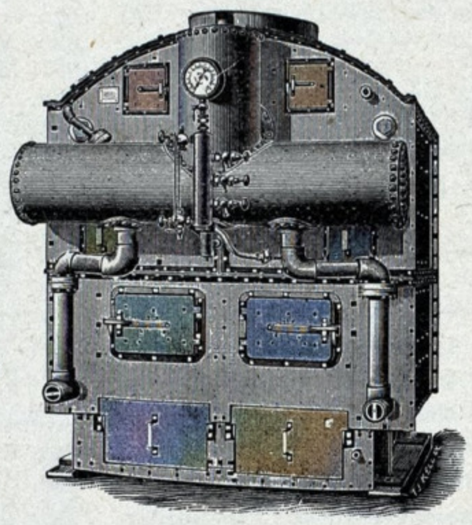

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SHIPPING AND MARINE JUDICIAL DECISIONS.

(Collaborated specially for THE MARINE RECORD.)

Collision—Crossing Steamers—Duty to Reverse.—A steamer, when the privileged vessel, in crossing, is not required to reverse to avoid a collision until it becomes evident that the other vessel will not or cannot keep out of the way. The Mary Powell, 92 Fed. Rep. (U. S.) 408.

Bill of Lading—Receipt—Contradiction—Estoppel.—A bill of lading acknowledging receipt of goods for transportation, is not conclusive as to the amount of goods delivered to the carrier, and does not estop it from showing that the goods were not in fact delivered. The Willie D. Sandhoval, 92 Fed. Rep. (U. S.) 286

Application of Statute.—The third section of the Harter act (27 Stat. 445), which is expressly applicable to "any vessel transporting merchandise or property to or from any port of the United States, includes a foreign vessel carrying cargo from a foreign to an American port. The Chattahoochee, 19 Sup. Ct. Rep. (U. S.) 491.

Admiralty—Loss of Cattle—Negligence—Libel—Dismissal.—Where cattle died in transit because of the negligence of the shipper in failing to provide sufficient bedding and ropes with which to tie them in the stalls provided by the ship, a libel against the ship to recover for such loss will be dismissed. The Oranmore, 92 Fed. Rep. (U. S.) 396.

Admiralty—Jurisdiction.—A court of admiralty has no jurisdiction to try the title to a vessel, where the petitioner's claim is based on an equitable interest merely, and not on the legal title, especially where the parties holding such title are not parties to the suit. The Robert R. Kirkland, 92 Fed. Rep. U. S.) 407.

Carriers—Nondelivery—Goods not Received—Liability.—The mere fact that goods were receipted for by the carrier's agent, who had no knowledge of their delivery, except a slip signed by the boatman, will not create liability for their nondelivery, where they were not in fact delivered to the carrier. The Willie D. Sandhoval, 92 Fed. Rep. (U. S.) 286.

Navigable Rivers—Outbreak—State's Right to Close.—That an outlet of the Mississippi river resulted from a break of crevasse in the natural channel does not warrant its closing by the state or local authorities without consent of the United States, where it has been open and navigable for over 60 years, and during such time has been a commercial highway. Leovy vs. United States, 92 Fed. Rep. (U. S.) 344.

Navigable Waters—Federal Control—Constitutional Powers—State Rights—The power vested in the federal government by Const. art. 1, § 8, to regulate interstate commerce, etc., involves the control of waters of the United States which are navigable in fact, so far as to insure their free navigation; and hence a state has no power to close any such navigable waters, though located wholly within its limits. Leovy vs. United States, 92 Fed. Rep. (U. S.) 345.

Towage—Loss of Tow—Liability of Tug for Negligence.—A tug is responsible for the loss of a tow, a barge laden with coal, which she anchored in the evening in an exposed place, proceeding to another port, where, by not keeping a watch during the night, her master was not advised of an approaching storm in time to reach and save the barge before it was sunk. The Thomas Purcell, Jr., 92 Fed. Rep. (U. S.) 406.

Bill of Lading—Burden of Proof—Evidence.—While the burden of proof is on a carrier to show that goods receipted for were not in fact received, yet where, in an action for their nondelivery, there was no evidence that a particular lot of sugar in barrels was actually loaded on a vessel, and no part of the lot was on board at the first port, and the evidence was inconsistent with the theory that it was lost or stolen, the carrier will not be liable. The Willie D. Sandhoval, 92 Fed. Rep. (U. S.) 286.

Bill of Lading—Construction—Foreign Law—Application.—A bill of lading of an English ship provided that all questions thereunder arising against the ship or her owners should be determined by English law in England. Held, that such provision was valid, and that the Engligh law governed a libel in admiralty for the loss of property under such bill of lading by the shipper, who was a resident of the United States. The Oranmore, 92 Fed. Rep. (U. S.) 396.

Limitation of Liability—Division of Damages.—In a case of collision by mutual fault, resulting in the total loss of one vessel and her cargo, the third section of the Harter act (27 Stat. 445), which exempts the owner of a seaworthy vessel from responsibility to the cargo for loss or damage occurring through faults or errors of navigation or management, does not prevent the other vessel, which alone is sued by the cargo owners for the full amount of their loss, from recouping one-half the amount awarded from the half damages awarded to the owners of the lost vessel. 21 C. C. A. 162, 74 Fed. Rep. 899, and 33 U. S. App. 510, affirmed. The Chattahoochee, 19 Sup. Ct. Rep. (U. S.) 491.

Tug and Tow—Sheering of Tow—Use of Bridle.—The Lady Wimett, a steam canal boat undertook to tow another canal boat from Black Rock Harbor to Buffalo harbor through the Erie Basin. The vessels met another tug and tow when about entering the basin, which compelled them to keep near the right side of the channel; and when close to a pier the tow took a sudden sheer to starboard, the chock and cleat gave way when the tug attempted to overcome the sheer, and the tow struck the pier and was sunk. There was nothing unusual in the undertaking of the tug, nor in the state of the wind or water, to render it more than usually hazardous. The hawser was of the usual length, and the chock and cleat were, so far as was or should have been known by the Wimett, in good condition. Both vessels were properly manned and managed. Held, that there was nothing in such evidence to show that the tug was in fault, nor could fault be imputed to her because of a failure to use a bridle, which was not usual, nor required for the towage of a single canal boat. The Lady Wimett, 92 Fed. Rep. (U. S.) 399.

Shipping—Demurrage for Detention of Vessel—Construction of Charter Party.—A charter party fixed the demurrage for each day's detention of the vessel "by the default" of the charterers or their consignees. It made no provision for "dispatch" or "quick dispatch" in loading or discharging the cargo, but fixed the minimum amount to be loaded or discharged each day, and provided that the lay days should commence "from the time the captain reports himself ready to receive or discharge cargo." Held, that under the latter provision the lay days did not commence until the vessel was ready and in position to receive or discharge cargo, and that the contract did not bind the charterers for demurrage for delay of the vessel in obtaining a wharf at which to discharge, notwithstanding a notice of readiness to discharge from the captain, where, as the owners knew or should have known, all the wharfs at the port of destination were public, and under the exclusive control of a harbor master, who directed the movements and position of all vessels thereat, and by the rules of the port each vessel was required to wait her turn. Flood et al. vs. Crowell, 92 Fed. Rep. (U. S.) 402.

Collision—Steam and Sail—Fog—Insufficient Lookout—Excessive Speed—Fog Horn not Heard—Privileged Vessel to Give Way—Maneuvering Power.—Upon a collision at sea in a thick fog about 20 miles off Fire Island between the steamer P., going at "half speed," and a four-masted schooner, closed hauled, going at a speed of about three knots, it being found upon the testimony, as well as upon the maneuvering power of the steamer, that her speed was about seven knots, or about two-thirds of her full speed, held excessive, when the schooner could be seen only 600 or 700 feet distant, and not justified by her failure to hear the schooner's horn earlier; and that a lookout on the bridge, without any at the bow, was insufficient. It further appearing that the steamer was approaching upon the schooner's lee beam, and that the master of the schooner had notice of the imminence of collision and that the steamer was backing, about two minutes before collision, held, that it was his duty to luff, as he might have done in order to aid in avoiding collision; since this was clearly a safe maneuver and could not possibly do harm, and was one of the "ordinary practices of seamen" within article 21, note, 27 and 29, and that the damages should therefore be divided. The Patria, 92 Fed. Rep. (U. S.) 411.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA — NORTHERN LAKES AND RIVERS—MICHIGAN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., April 19, 1899.

PETITE POINTE AU SABLE LIGHT STATION.—Notice is hereby given that, on or about May 15, 1899, the color of the tower at this station, on Petite Pointe au Sable, easterly shore of Lake Michigan, will be changed from red to white.

ST. MARYS FALLS CANAL, WESTERLY ENTRANCE.

ST. MARYS FALLS CANAL (N. PIER) LIGHT.—Notice is hereby given that this light, formerly on the north pier at the westerly entrance to the canal, 450 feet from the outer end of the pier, has been permanently discontinued and the structure from which it was shown has been removed.

Notice is also given that, on the opening of navigation, 1899, the westerly entrance to St. Marys Falls canal will be lighted as follows:

VIDAL SHOAL CHANNEL RANGE LIGHTS.

REAR LIGHT.—A light of the fifth order, showing fixed white varied by a red flash every minute, will be established in the tower recently erected near the railroad embankment, at the southerly end of the International railroad bridge, and about 1,400 feet (¼ mile) E.N.E. ¾E. (true) in rear of the front light on the outer end of the north pier.

The focal plane of the light will be 57 feet above mean lake level.

The tower is a triangular, pyramidal, open, iron frame work, of which the other half is slatted and painted white, and the lower half is open and painted brown.

FRONT LIGHT.—A fixed red light of the fourth order will be established in the tower recently erected on the outer end of the north pier.

The focal plane of the light will be 30 feet above mean lake level.

The tower is a conical, white, iron structure.

With the preceding this light marks a range line to guide through the Vidal Shoal channel to the westerly entrance to St. Marys Falls canal.

ST. MARYS FALLS CANAL (S. PIER) LIGHT.—This light, on the outer end of the south pier at the westerly entrance to the canal, will be a fixed white lens lantern light (instead of a fourth order fixed red light) and will be shown from the top of a small white house with a red roof (instead of from a conical, white iron tower) at a height of 15 feet above mean lake level.

By order of the Light-House Board:

FRANCIS J. HIGGINSON,
Rear Admiral, U. S. Navy, Chairman.

Notice is hereby given that the Tail Point pile cluster beacon light and elbow beacon light, southerly end of Green Bay, Wisconsin, have been carried away by the ice.

These lights will be re-established as soon as practicable.

By order of the Light-House Board:

C. C. ALLIBONE, Commander U. S. Navy,
Inspector 9th Light-House District.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	302,000	....	.....	4,000	123,000
Chicago	4,881,000	11,628,000	1,312,000	341,000	764,000
Detroit	334,000	344,000	7,000	3,000	4,000
Duluth and Superior	10,748,000	5,572,000	2,080,000	310,000	488,000
Milwaukee	32,000	1,000	4,000	2,000	81,000
Montreal	26,000	17,000	54,000	1,000	8,000
Oswego	.....	.....	.....	.....	.....
Toledo	310,000	410,000	119,000	3,000	.....
Toronto	50,000	.....	16,000	.....	15,000
Grand Total	29,179,000	28,101,000	10,426,000	1,330,000	1,714,000
Corresponding Date, 1898	25,914,000	31,649,000	11,775,000	2,860,000	894,000
Increase	.....	.....	.....	.....	.....
Decrease	1,323,000	1,607,000	624,000	39,000	171,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

AMERICAN SHIP BUILDING COMPANY.

Officers of the organization, which will be known as the American Ship Building Company, recently organized under the laws of New Jersey, are:

President, W. L. Brown, Chicago Ship Building Co.

Vice-president, Robert L. Ireland, Globe Iron Works, Cleveland.

General manager, James C. Wallace, Cleveland Ship Building Co.

Assistant general manager W. E. Fitzgerald, Milwaukee Dry Dock Co.

Secretary and treasurer, R. T. Wetmore, American Steel Barge Co., New York.

Executive committee, W. L. Brown, of Chicago; A. McVittie, of Detroit; James C. Wallace, of Cleveland; Robert L. Ireland, of Cleveland; Luther Allen, of Cleveland; Colgate Hoyt, of New York, and W. E. Fitzgerald, of Milwaukee.

Board of directors, W. L. Brown and H. H. Porter, jr., of Chicago; Robert Wallace, James C. Wallace, H. M. Hanna, L. C. Hanna, Robert L. Ireland and Luther Allen, of Cleveland; Colgate Hoyt, of New York; Samuel Mather, of Cleveland; W. E. Fitzgerald and Andrew M. Joys, of Milwaukee; A. McVittie and Gilbert N. McMillan, of Detroit; W. T. Coleman Carpenter, of New Jersey.

The plants combined by the new company are those of the American Steel Barge Co., at West Superior; Milwaukee Dry Dock Co., Chicago Ship Building Co., Detroit Dry Dock Co., Cleveland Ship Building Co., Lorain and Globe Iron Works, of Cleveland, and the Ship Owners' Dry Dock Co., of Cleveland.

The authorized capital is $30,000,000. The actual capital, however, is only $14,000,000, of which $7,000,000 is non-accumulative 7 per cent. stock, and $7,000,000 common stock.

ITHE STRENGTH OF WAVES.

The "Navigators' Handbook for the Indian Ocean" says: "In the region of the trade winds the average length of the waves of the Indian Ocean is 96 metres (315 feet), and the rate of advance of the crest 28.2 miles per hour. In the region of the strong west winds in the southerly portion of the South Indian Ocean the average length of storm waves is 374 feet, and the rate of advance of the crest 33.6 miles per hour."

Prof. Cleveland Abbe, of Washington, who furnishes this quotation, explains that the length of a wave is measured from crest to crest. In popular language it might be called the width.

A big wave, as the ordinary eye sees it, is then a big mass of water perhaps a mile or more in length, 374 feet wide and possibly 60 feet high from trough to crest, careering over the sea at thirty-three miles an hour.

Such a wave will weigh, for each foot of its length, 1,680,000 pounds, or 364 short tons. Its length may be a half-mile, or even a mile. One mile's length of a single big wave will weigh 1,920,800 tons, or as much as sixty-five steamships like the New York or Paris.

If a ship 600 feet long lies in the trough of the sea, a wave 60 feet high hurls its strength—600 times 364 tons—218,400 tons, more than 19 times its own weight. This weight does not fall upon the ship at sea, because its buoyancy enables it to rise; but if it drifts upon a lee shore, the power of a succession of 218,400 ton blows will tear to pieces any ship man has the cunning or the power to build.

The kinetic energy of a wave is obtained by the familiar formula—weight multiplied by square of velocity. One mile-length of 1,920,809 tons of wave traveling, say, 33 miles an hour develops in one second energy equal to that obtained by burning 6,048 pounds of coal. In an hour its energy equals that of 173 tons of coal.

THE work of deepening and widening the channel from Ballard's Reef to the Limekiln Crossing has been resumed. Half the dredging was done last season under an appropriation of $125,000 by the government, and $100,000 has been appropriated for its completion this year.

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Are prepared to make rates on all classes of Marine Insurance on the Great Lakes, both CARGOES AND HULLS.

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CAPITAL, Paid up in Cash, - - - - - $3,000,000.00
ASSETS, - - - - - - - - 10,173,488.90

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GREVILLE E. FRYER, Sec'y and Treas.
T. HOUARD WRIGHT, Marine Secretary.

EUGENE L. ELLISON, Vice President.
BENJAMIN RUSH, Second Vice President.
JOHN H. ATWOOD, Assistant Secretary.

Lake Marine Department, GEORGE L. McCURDY, MANAGER. CHICAGO, ILL.

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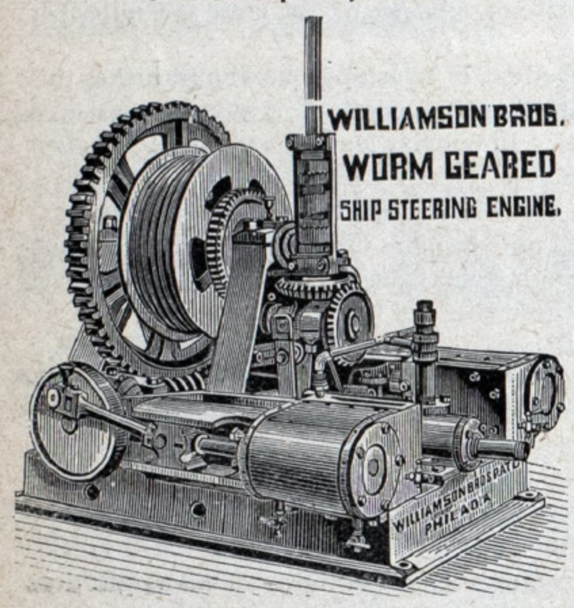

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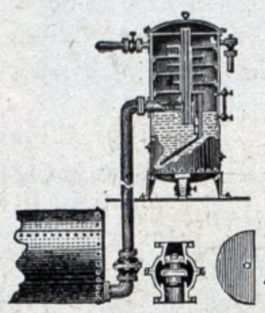

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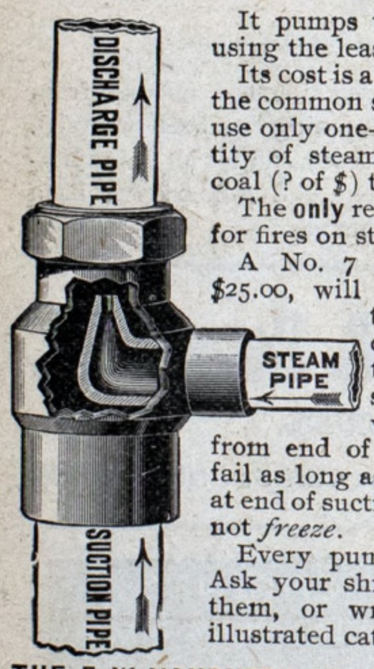

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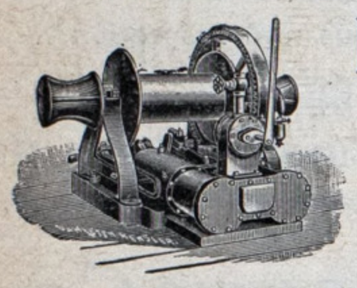

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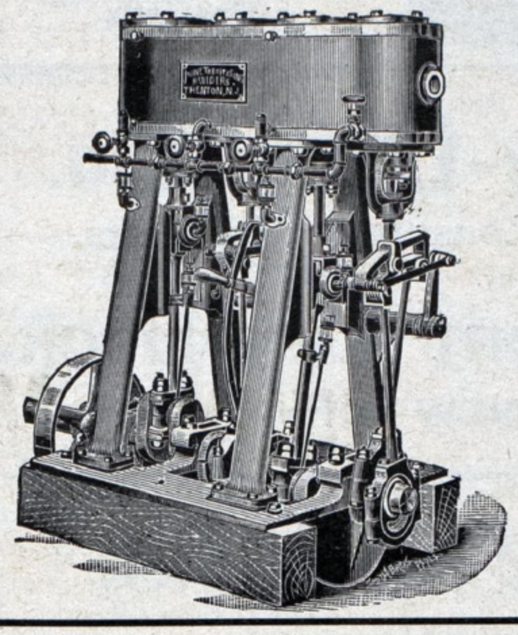

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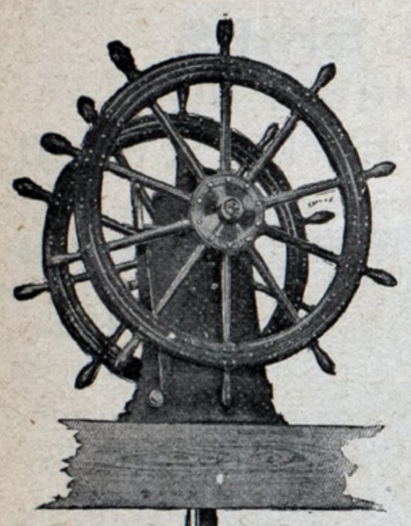

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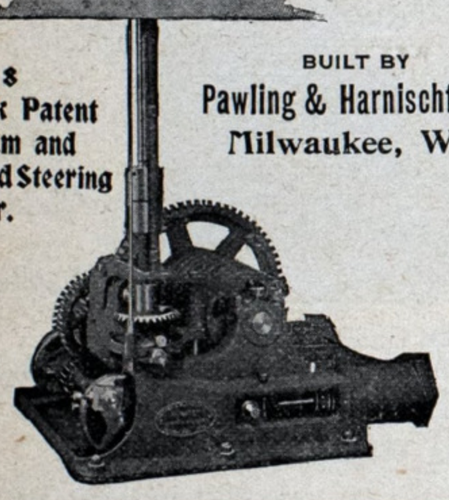

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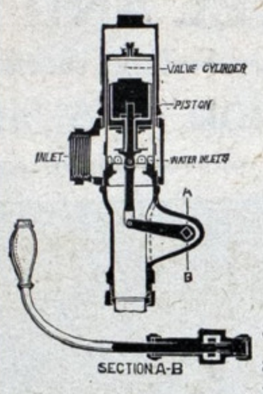

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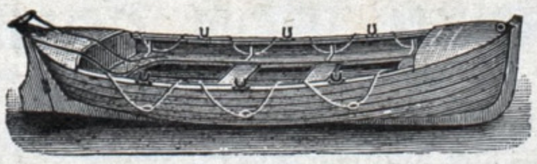

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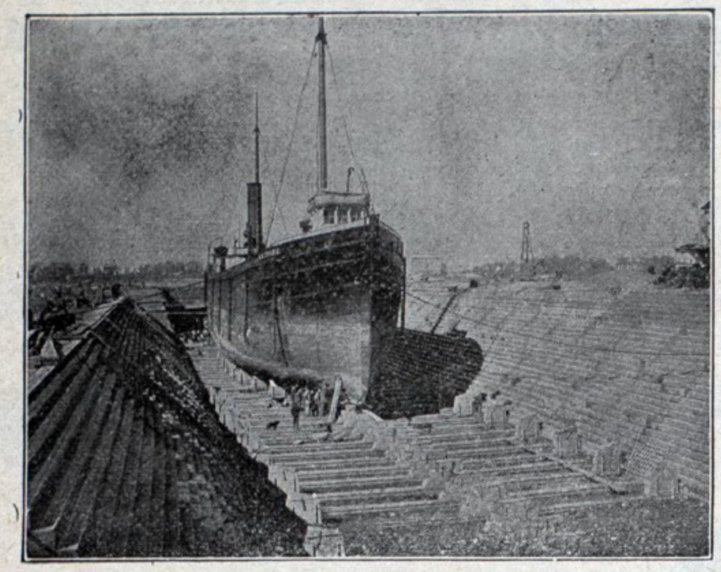

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PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.

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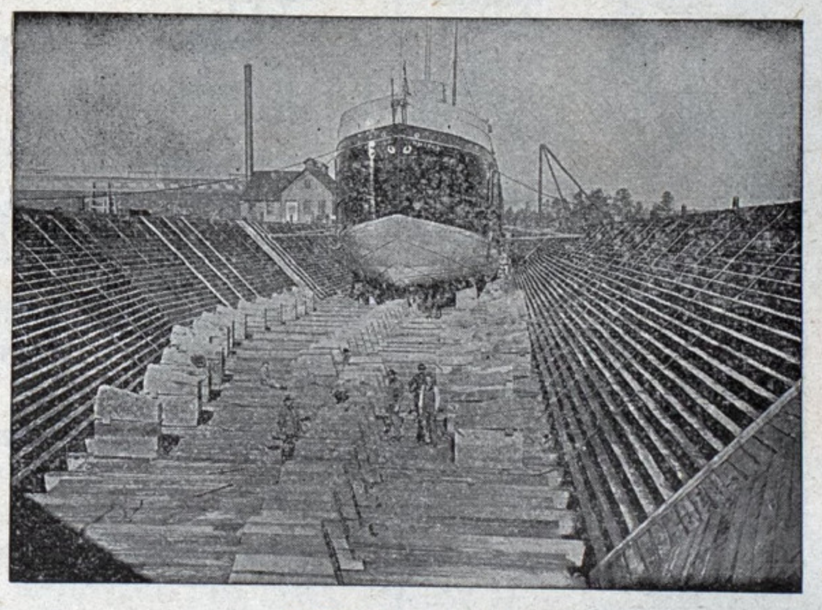

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Breadth, Bottom	52 "	Depth over Sills	18 "

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